RINGKASAN

Tanaman padi (*Oryza sativa* L.) merupakan tanaman pangan penting di Indonesia. Produksi padi di Indonesia pada 2019 mengalami penurunan dibandingkan tahun 2018. Upaya peningkatan produksi padi dapat dilakukan dengan memanfaatkan lahan marginal berupa tanah entisol. Namun tingkat efisiensi pemupukan di tanah entisol relatif rendah, sehingga diperlukan pupuk dengan efisiensi tinggi. Pupuk NZEO-SRPlus melepaskan hara N perlahan-lahan, sehingga meningkatkan efisiensi penggunaan pupuk. Penelitian ini bertujuan untuk mengetahui pengaruh komposisi pupuk NZEO-SRPlus dan pemberian *coating* pupuk terhadap beberapa sifat kimia tanah entisol, serapan N tanaman, dan pertumbuhan tanaman padi.

Penelitian dilaksanakan di Laboratorium Ilmu Tanah dan *screen house* Fakultas Pertanian, Universitas Jenderal Soedirman mulai bulan Juni sampai dengan Desember 2020. Penelitian merupakan percobaan pot menggunakan Rancangan Acak Kelompok (RAK) dengan perlakuan dua faktor. Faktor pertama adalah *coating* asam humat dan nano zeolit terdiri atas 2 macam, dan faktor kedua adalah macam pupuk NZEO-SRPlus terdiri atas 6 macam, sehingga terdapat 12 perlakuan. Masing-masing perlakuan dilakukan 3 kali ulangan sehingga total terdapat 36 pot percobaan. Data yang diperoleh dianalisis menggunakan analisis sidik ragam dan uji *Duncan's Multiple Range Test* (DMRT) pada taraf 5%.

Hasil penelitian menunjukkan bahwa komposisi pupuk NZEO-SRPlus dapat meningkatkan N-Total, N-Tersedia dan KTK tanah serta meningkatkan tinggi tanaman dan jumlah anakan. Pemberian *coating* pada pupuk tidak berpengaruh terhadap variabel yang diamati. Tidak terjadi interaksi antara komposisi pupuk NZEO-SRPlus dan *coating* pada pupuk.

SUMMARY

Rice (Oryza sativa L.) is an important food crop in Indonesia. Rice production in Indonesia in 2019 has decreased compared to 2018. Efforts to increase rice production can be done by utilizing marginal land in the form of entisol soil. However, the efficiency level of fertilization in entisol soil is relatively low, so that high efficiency fertilizer is needed. NZEO-SRPlus fertilizer releases N nutrient slowly, increasing the efficiency of fertilizer use. This study aims to determine the effect of NZEO-SRPlus fertilizer composition and fertilizer coating on several chemical properties of entisol soil, plant N uptake, and rice plant growth.

The research was conducted at the Soil Science Laboratory and screen house of the Faculty of Agriculture, Jenderal Soedirman University from June to December 2020. The research was a pot experiment using a randomized block design (RBD) with two-factor treatment. The first factor is the humic acid and nano zeolite coating consisting of 2 types, and the second factor is , the type of NZEO-SRPlus fertilizer consisting of 6 types, so there are 12 treatments. Each treatment was repeated 3 times so that there were a total of 36 experimental pots. The data obtained were analyzed using analysis of variance and Duncan's Multiple Range Test (DMRT) at the 5% level.

The results showed that the composition of the NZEO-SRPlus fertilizer could increase the total N, available N and CEC of the soil and increase plant height and number of tillers. The coating application on fertilizers did not affect the observed variables. There was no interaction between the composition of the NZEO-SRPlus fertilizer and the coating on the fertilizer.